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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,753	09/12/2003	John M. Koegler III	200310760-1	8167

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EXAMINER	
LAMB, CHRISTOPHER RAY	
ART UNIT	**PAPER NUMBER**
2627	

DATE MAILED: 04/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/661,753	KOEGLER ET AL.	
	Examiner	Art Unit	
	Christopher R. Lamb	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 January 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *3 total*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: in paragraph 1, line 2, the number of the related application needs to be inserted.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 10 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicant refers to "the features," but it is not clear whether the applicant is referring to the disc speed features, the disk angular orientation features, or both.

4. Claim 12 recites the limitation "the OPU-writeable material" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Honda (US 2002/0191517) in view of Horikawa et al (US 4,884,259).

Regarding claim 1, Honda discloses an optical disk (Fig. 1), comprising:

a label region on the optical disk comprising a writeable material (paragraph 30).

Honda does not disclose "disc speed features, located to be readable when writing the label region, to convey disk speed data."

Horikawa discloses disc speed features (Fig. 1: 5, 6), located to be readable when writing, to convey disk speed data (column 6, line 48-61).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Honda disc speed features, located to be readable when writing the label region, to convey disk speed data, as taught by Horikawa.

The motivation would have been to track the disc speed directly from the disc, instead of the spindle motor (as in Honda paragraph 37), improving reliability.

Regarding claim 2, in Honda the label region is on a label side of the optical disk (apparent from Fig. 1).

Regarding claim 3, it is inherent to Honda in view of Horikawa; in the modification taught by Horikawa the disk speed features are configured to deflect incoming light (they are optically detected: column 4, line 63 to column 5, line 7, and take the form of deformations in a mirrored surface, so they must deflect the light).

Regarding claim 4, in Honda the optical disk includes a data side and a label side (paragraph 30).

Regarding claim 5, the disk speed features taught by Horikawa includes disk angular orientation features, located to be readable when writing to the label side, to convey disk angular orientation data (the disc speed features taught by Horikawa

include a starting reference mark, or disk angular orientation feature, 5: column 4, line 63 to column 5, line 7).

Regarding claim 6, Honda in view of Horikawa discloses an optical disk as discussed above.

In Honda in view of Horikawa the disk speed features and the disk angular orientation features define an annular ring (visible in Fig. 1) configured for reading by an encoder (column 4, line 63 to column 5, line 7).

Honda in view of Horikawa does not disclose that the features define annular rings (instead it is just one ring).

At the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to have the features in two annular rings because Applicant has not disclose that having two rings provides an advantage, is used for a particular purpose, or solves a state problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with a single annular ring; Applicant admits this in paragraph 28, lines 9-10, of the specification: "the disk speed features and disk angular orientation features may be combined into an annular ring of features."

Therefore, it would have been an obvious matter of design choice to modify Honda in view of Horikawa to obtain the invention as specified in claim 6.

Regarding claim 7, in Honda in view of Horikawa the disk angular orientation features are defined in a mirror region of the label side of the optical disk (the features taught by Horikawa are in a mirror region, because Horikawa's whole disc is coated with

a thin metal film: column 4, lines 38-49. This mirror region is necessary in Honda in view of Horikawa because the detector is optically detecting the marks, and the optical detection wouldn't work in a non-mirrored region).

Regarding claim 8 and 10, in Honda in view of Horikawa the disk speed features and disk angular orientation features are molded. This is not explicitly stated, but it is inherent; the features are pre-formed on the disc and molding is how pre-pit features are typically made. Alternatively, if the Applicant can persuade the Examiner that the features are not inherently molded, these claims can be rejected over Honda in view of Horikawa and further in view of Nee et al. (4,729,940); see this rejection below.

Regarding claim 12, in Honda in view of Horikawa the disk angular orientation features comprise a surface, distinct from the OPU-writable material, having markings to indicate disk angular orientation (the features are on the outer ring of the disc, as per Horikawa Fig. 1, and must be distinct from the label material because they need to be optically detectable pits: the label material would hide these pits).

Regarding claim 14, in Honda in view of Horikawa the markings comprise interspersed areas with and without molded pits (they must be pits because that is the only kind of optically distinguishable mark Horikawa discloses; that they are molded is inherent, as per claims 8 and 10).

Regarding claim 15, in Honda in view of Horikawa molded pits define a light-deflecting feature (they must deflect the light to be optically detectable).

Regarding claim 16, in Honda in view of Horikawa the disk speed features and the disk angular orientation features are combined into an annular ring of features to convey the disk speed data and the angular orientation data (visible in Horikawa Fig. 1).

Regarding claim 17, in Honda in view of Horikawa the disk speed features are molded in a mirror region of the optical disk (for the mirror reasoning, see claim 7; for the molding, see claims 8 and 10).

Regarding claim 19, in Honda in view of Horikawa the disk speed features comprise interspersed areas with and without molded pits (the reasoning is similar to claim 14).

Regarding claim 20, 22, and 24, these claims are the inherent method of making the optical disc disclosed by Honda in view of Horikawa.

If the Applicant can persuade the examiner that the disk speed features are not inherently molded (as per claims 8 and 10), claims 20, 22, and 24 can be alternatively rejected as follows.

7. Claims 8, 10, 14, 17, 20, 22, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Honda in view of Horikawa as applied to the claims above, and further in view of Nee (US 4,729,940).

Honda in view of Horikawa discloses an optical disk as discussed above.

Honda in view of Horikawa does not explicitly disclose that the features are molded.

Nee discloses a method of manufacturing an optical disk in which pits are molded (column 1, lines 38-52).

It would have been obvious to one of ordinary skill in the art to modify Honda in view of Horikawa to include wherein the disk angular orientation features or disk speed features are molded, as taught by Nee.

The motivation would have been to use improve reliability by using an old and well-understood manufacturing process.

Regarding claim 20, 22, and 24, these claims are the inherent method of making the optical disc as discussed. No further elaboration is necessary.

8. Claims 9, 11, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Honda in view of Horikawa as applied to the claims above, and further in view of Bugner et al. (US 6,109,324).

Regarding claims 9 and 11, Honda in view of Horikawa discloses an optical disc as discussed above.

Honda in view of Horikawa does not disclose "wherein the disk angular orientation features comprise markings within the label region," or "wherein the features are printed."

Bugner discloses disk angular orientation features that comprise markings within the label region, wherein the features are printed (column 2, line 57 to column 3, line 7). Bugner discloses that this allows printing a second image in alignment with a first image.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Honda in view of Horikawa to include disk angular orientation features that comprise markings within the label region, where the features are printed.

The motivation would have been to print a second image in alignment with a first image, as disclosed by Bugner.

Regarding claim 23, this claim is the inherent method of making the optical disc of claims 9 or 11 (the optically readable indicia are defined on a planar surface of the optical disk because they are printed there, as taught by Bugner. Alternatively, if the Applicant can convince the Examiner that the disk speed features are not inherently molded, this claim can be alternatively rejected over Honda in view of Horikawa, and further in view of Nee, and further in view of Bugner: all the pieces of this rejection have already been discussed in earlier rejections).

9. Claims 13, 18, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Honda in view of Horikawa as applied to the claims above, and further in view of Nagashima (US 5,670,947).

Regarding claim 13, Honda in view of Horikawa discloses an optical disc as discussed above.

Honda in view of Horikawa does not disclose "wherein the markings comprise a molded saw tooth to deflect light from a sensor." However, Honda in view of Horikawa does have markings to deflect light from a sensor (the pits taught by Horikawa).

Nagashima discloses a molded saw tooth shape that deflects light from a sensor (column 3, lines 29 to 41).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Honda in view of Horikawa wherein the markings comprise a molded saw tooth to deflect light from a sensor.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Honda in view of Horikawa wherein the markings comprise a molded saw tooth to deflect light from a sensor, because a saw tooth and a pit are used in the same environment, for the same purpose, and achieve the same result (Negashima does not use the saw tooth feature in an optical disc drive, but the principle is the same. Both the pit and the saw tooth are deformations in the surface intended to keep light from reflecting back to a photodetector, and such variations would be well known to one of ordinary skill in the field of optics).

Regarding claim 18, it is rejected for the same reasons: it is just as obvious to make the disc speed features saw tooth as it is the markings.

Regarding claim 21, this is the inherent method of making corresponding to the optical disc of claim 18.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Cordano (US 3,426,337), Satoh et al (US 5,119,363), Morishima et al. (US 2003/0117932).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R. Lamb whose telephone number is (572) 272-5264. The examiner can normally be reached on 8:30 AM to 6:00 PM Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

THANG V. TRAN
PRIMARY EXAMINER

CRL 4/19/06